REMARKS

By this amendment, claims 1-8 have been revised to place this application in condition for allowance. Currently, claims 1-8 and 13-20 are before the Examiner for consideration on their merits.

First, Applicants' attorney wishes to thank Examiner Roe and SPE King for granting a personal interview on February 24, 2010. In light of this interview, claims 1-8 have been revised to specify that Mo is an alloying element. Based on the requirement that Mo is contained in the claim alloy and the interview summary, this revision removes the rejection based on Miyata.

Thus, the only rejection left is that based on Hara and 35 U.S.C. § 103(a).

One question of patentability is whether it can be assumed that the amount of carbides in the grain boundaries is present in Hara. This question is one that is based on a weighing of the evidence for and against patentability.

In more detail, the question revolves around the tempering temperature and whether the tempering temperature taught in Hara would produce a structure that would have the claimed carbide amount limitation.

The facts are as follows:

1) Hara teaches a tempering temperature of 550 °C.

2) Applicants have tested an alloy that falls within the claimed composition range, i.e., Alloy N and Test No. 24. This test was performed at a tempering temperature of 600 °C. The result of this test is that the carbide amount at the grain boundary was 0.65%, see Table 2.

3) The claims require a maximum of 0.13% by volume carbide amount at the grain boundaries. This maximum corresponds to the data of the invention, as best seen in Test No. 7 in Table 2, which is air cooled. Steels that are tempered at 400 °C show carbide values of 0.05% and 0.06%, see Test Nos. 5 and 9, respectively.

4) Declaration evidence is submitted by the lead inventor for this application. This Declaration evidence is in the form of technical literature. The technical literature essentially demonstrates that the effects of tempering occur between 500-700 °C so that these effects would be expected to be present in Hara. Moreover, the effect of

tempering in this temperature range is the precipitation of carbides. The technical literature also presents comparative data that shows that tempering at 550 °C produces properties that are more similar to the properties present when a 600 °C tempering temperature is used. This, in Applicants' view, supports a conclusion that the carbide amount for a tempering temperature of 550 °C would be expected to be closer to the value shown in the specification of 0.65%, which is based on tempering at 600 °C.

The evidence favoring unpatentability must be properly weighed against all countervailing evidence. *In re Piasecki*, 745 F.2 1468, (Fed. Cir. 1984). When weighing the evidence, the more reasonable conclusion to draw is that the tempering temperature of Hara does not necessarily produce the 0.13% carbide volume required in the claims. This is particularly so when steels that are subjected to low temperature tempering, i.e., Test Nos. 5 and 9, have even lower carbide values. Therefore, a *prima facie* case of obviousness is not established against the claims based on Hara and the rejection should be withdrawn.

The rejection based on Woods is improper for the reasons that the processing of Woods is not even similar to that used to obtain the claimed carbide amount. In the rejection, the Examiner is relying on the principle in *In re Best* to allege that even though the claimed carbide amount is not disclosed, the processing between the invention and Woods is similar enough to permit the Examiner to take the position that the claimed carbide amount would be expected or inherent in the material of Woods.

Woods quite clearly teaches a cast structure as explained in col. 4, lines 11-65. Moreover and contrary to the Examiner's assertion, Woods teaches that the cast structure does not require tempering. The col. 1 disclosure cited by the Examiner refers to the prior art processing. In col. 4, lines 40-42, Woods explains that the casting produces a structure that already exhibits tempered characteristics. In col. 1, lines 30-35, Woods teaches that

the steel can be made without quenching and tempering. Based on this, it is error for the Examiner to say that Woods steel is quenched and tempered and inherently has the claimed properties. Put another way, Woods teaches casting a steel without tempering, see claim 9 for example. The casting of Woods is not even remotely similar to the wrought process used in the invention and because of the difference in processing between Woods and the invention, the carbide amount cannot be considered to be present.

In addition, even if the Examiner were to say that just the cast material of Woods is analogous to the air cooled steel of the invention, the casting of Woods and the wrought processing of the invention are still entirely different processes and the Examiner cannot rely on *In re Best* to reject the claims based on Woods.

SUMMARY

To recap, Applicants submit that the rejection based on Woods is improper for the reason that Woods is directed to a cast steel and the processing of Woods is entirely different from that used to produce the claimed steel, including the claimed carbide amount.

The rejection based on Miyata is no longer valid now that the claims require Mo.

The rejection based on Hara is improper when weighing the evidence of record concerning the effects of tempering temperatures and carbide precipitation.

In light of this response, the Examiner is respectfully requested to examine this application in light of this amendment, and pass claims 1-8 and 13-20 onto issuance.

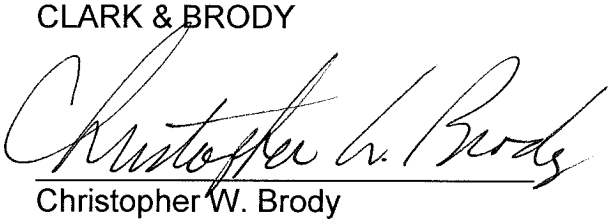
If the Examiner believes that an interview with Applicants' attorney would be helpful in expediting prosecution of this application, the Examiner is respectfully requested to telephone the undersigned at 202-835-1753.

Again, reconsideration and allowance of this application is respectfully requested.

The above constitutes a complete response to all issues raised in the Office Action dated December 3, 2009.

A petition for a three month extension of time is made. Please charge the fee of $1,110.00 to Deposit Account No. 50-1088. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,
CLARK & BRODY



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Date: May 20, 2010